

Editorial



Mesotheliomas all : long before their time

In 1935 in the Ulster Medical Journal, Campbell and Young¹ reported a cluster of three cases of pleural tumour which they had observed in Belfast within five months. They concluded that each was a primary tumour of the pleura and they entitled their paper: "*A Primary Tumour (Mixed-Cell Sarcoma) of the Pleura*". The case reports are predominantly pathological, the gross appearance of the tumours and the histology are described and illustrated. In two cases neither sex nor occupation is given, the third case was a woman school teacher.

It was possible through the records system of the Department of Pathology of the Royal Victoria Hospital to locate the tissue blocks and cut fresh sections, nearly sixty years later. On review of the histology two of the cases (A1026 and A1014) were typical tubulo-papillary mesotheliomas. In one case (A1026) asbestos bodies are identified in the adjacent lung tissue. In the third case (A1143) the histological diagnosis was less certain: the tumour was composed of spindle shaped cells which could represent an undifferentiated carcinoma of lung or a spindle cell mesothelioma. So far as one can tell from Campbell and Young's paper, this was probably the case of the school teacher. All cases were scrutinized using a new immunohistochemical marker – HBME-1⁷ which has just been made available. This new marker was positive in all three cases confirming them as mesotheliomas. It is remarkable that antigen preservation is maintained in paraffin blocks over a 60 year span.

As early as 1928 Professor Young,² then working at the Western Infirmary of Glasgow, had observed three similar cases. Both Doctor Campbell and Professor Young were earnest and distinguished workers, but the clustering does not seem to have suggested to them the possibility of an environmental agent being a factor in the causation of the tumour, even though both Glasgow and Belfast were in those days shipbuilding centres of

world importance. Twenty-three years later Doctor W. T. E. McCaughey,³ of the Department of Pathology in the Royal Victoria Hospital, published an account of eleven diffuse and two focal primary tumours of the pleura – another example of a cluster in Belfast. As Professor P. C. Elmes relates in this journal in 1977, the association of the pleural tumours with asbestos exposure became clear with the observations of Wagner⁴ and his associates in South Africa. The work of Elmes⁵ and his colleagues was to revolutionise health concepts of the worker in the asbestos industry in Belfast, and farther afield.

Professor James Cuming was Professor of Medicine in the Queen's College, Belfast. In 1884 in his address to the annual meeting of the British Medical Association⁶ he said: "Symptoms without morbid anatomy are misleading and inadequate for the purposes of the physician. This has been only too well demonstrated in the records of medicine; but it is no less certain that morbid anatomy without symptoms, that is without giving a due and a preponderating weight to the origin and progress and vital character of the disease, will lead to error hardly less disastrous". The history of asbestos related disease in its clinical, pathological and environmental aspects illustrates the truth of Cuming's observation.

The Department of Pathology at the Royal continues this tradition of interest in mesotheliomas and in asbestos related diseases in general. In 1986, the Asbestos Research Laboratory was set up for analysis of asbestos fibres using scanning electron microscopy with EDXA and image analysis techniques. Over 600 cases of asbestos related disease are now in its records – representing a significant data base of asbestos-related disease.

J. S. Logan
H. Bharucha
J. M. Sloan

REFERENCES

1. Campbell S B B, Young J S. A primary tumour (mixed-cell sarcoma) of the pleura. *Ulster Med J* 1935; **4**: 36-8.
2. Young J S. The experimental production of metaplasia and hyperplasia in the serosal endothelium and of hyperplasia in the alveolar epithelium of the lung of the rabbit. *J Path Bact* 1928; **31**: 265-75.
3. McCaughey W T E. Primary tumours of the pleura. *J Path Bact* 1958; **76**: 517-29.
4. Wagner J C, Sleggs C A, Marchand P. Diffuse pleural mesothelioma and asbestos exposure in North West Cape Province. *Br J Indust Med* 1960; **17**: 260-71.
5. Elmes P C. Investigation into the hazardous use of asbestos. Northern Ireland 1960-1976. *Ulster Med J* 1977; **46**: 71-80.
6. Cuming J. Address to the annual meeting of the British Medical Association. *Br Med J* 1884; **2**: 201-5.
7. Meittinen M, Kovatich A J. HBME-1 A Monoclonal Antibody useful in the differential diagnosis of mesothelioma, adenocarcinoma, and soft-tissue and bone tumors. *Appl Immunohistochem* 1995; **3**: 115-22.